

Intelligence MEMOS



From: Jan Carr
To: Canada's Energy Policymakers
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Re: **TOWARD A NATIONAL GRID**

There are compelling benefits to increasing the interprovincial flows of electricity, but realizing them will require more than planning an energy corridor or simply establishing the physical infrastructure of a national grid.

Some benefits are widely known, such as the potential for making better use of renewable hydroelectric resources in provinces such as British Columbia, Manitoba, Quebec and Newfoundland and Labrador. But less widely understood is that these provinces can also benefit from the greater certainty of thermal generation – coal, gas and nuclear power – that dominates the electricity systems in the other provinces.

Renewables are inherently weather and climate dependent, and their production costs are dominated by their initial capital cost to cover worst-case conditions. In contrast, fossil fueled generators are dependent on, and have costs that are dominated by, their fuel supply. Nuclear power combines the best of both worlds – the dependability of a thermal generator but a cost structure and emissions profile of a renewable generator.

An electricity system that combines many sources of generation across provincial boundaries can take advantage of this diversity among generating resources both to optimize hour-by-hour production costs within emissions limits and to reduce long-term investment costs by more efficiently combining the benefits of unpredictable renewable with reliable thermal supplies.

Unlike most countries, whose electricity systems principally developed along integrated national lines, Canada has self-contained provincial electricity siloes. Perversely, this is largely because Canada has such a bounty of energy resources that, historically, most provinces were able to be self-sufficient during the formative years of electrification in the last century. Electricity self-sufficiency is still official provincial policy in British Columbia and the de facto policy of most others.

That instinct has been reinforced by government ownership of electric utilities. Alberta, Nova Scotia and Prince Edward Island are the main exceptions. This matters because private sector utilities pay corporate taxes and do not incur public debt – which benefits taxpayers by both increasing government revenues and reducing government borrowing costs compared to government-owned utilities. It also matters because government ownership creates a commercial self-interest that biases a government's objectivity in setting economically and environmentally sustainable energy policy.

The differing patterns of ownership and electricity resources between provinces results in differing value propositions, which is the threshold issue that must be resolved before any meaningful progress can be made toward a national grid.

Quite simply, if two potential trading partners see profits and losses in different ways it will be difficult or impossible for them to find a mutual benefit. An example: In Alberta, generators compete for business while the earnings of transmission utilities are largely unaffected by volumes and paid for only by consumers. Therefore, the immediate benefits of importing and exporting go to generators while the cost of the transmission lines to allow interprovincial trade is borne by consumers whose benefit depends on the trickle down of increased competition among the generators. Across the border in B.C., where generation and transmission are integrated into government-owned B.C. Hydro, consumers can benefit directly, but there's limited transparency to ensure that monopoly power isn't being used to block price competition among Alberta generators.

In unjamming the roadblocks that a patchwork of mismatching provincial policies poses to a rational nationwide approach to electricity, Canada can look to Australia and the European Union as examples.

In Australia, a national electricity market has been put in place by the individual states working together rather than by edict from the national government. In Canadian terms, this would correspond to the Council of the Federation taking the lead, avoiding federal intrusion into electricity, which provinces jealously guard as their constitutional responsibility. In the European Union too, an international electricity market has been established without trampling the structures and regulations of individual countries. This is achieved by allowing each country to set the rules for import and export for half of its electricity trade with a neighbour in return for letting the neighbour set the rules for the other half.

Canada could begin down the road toward a national electricity marketplace by two neighbouring provinces establishing bilateral trade under such arrangements and then extending into multilateral agreements. Starting the ball rolling regionally will provide immediate economic and environmental benefits while avoiding the mammoth difficulties of attempting to establish a national grid in one fell swoop.

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